March 17, 2005

Miles Mayhew
DPD Land Use Planner

Dear Mr. Mayhew:

Thank you for the opportunity to comment on the draft update of the Environmentally Critical Areas regulations.

While we are pleased that the regulations prohibit the use of pesticides within wetlands and their buffers, we are concerned that stream contamination has not been adequately addressed.

Pesticides are extremely pervasive in the habitat of fish and wildlife in the Pacific Northwest, and have been found to be a serious contaminant in salmon habitat. In the major watersheds where Pacific salmon are found, the U.S. Geological Survey (USGS) has detected at least 25 and as many as 50 pesticides per watershed. The USGS found pesticides in urban, rural, and mixed watersheds, and as many as 18 pesticides in a single stream. A study in King County, tracked pesticide sales in relation to urban detections, and found that while many detections were of home-use products, many pesticides detected were restricted use and unavailable to homeowners. Thus, pesticide pollution in our rivers and streams is occurring due to residential, commercial, and agricultural uses.

Sixteen pesticides have been found in Pacific salmon watersheds at levels that exceed criteria set to protect aquatic life. For numerous other pesticides, regulatory agencies have not set numeric criteria, but the pesticides have been found at significant levels and may be harming aquatic life.

Pesticide Harm to Salmon

Pesticides can kill salmon directly, or interfere with important behaviors such as swimming and avoiding predators. Examples abound: azinphos methyl has cause massive fish kills throughout the U.S.; studies find that trout lose orientation in currents when exposed to 2,4-D; and trifluralin has been shown to cause bone abnormalities. All of these pesticides have been found in northwest waters at harmful levels.

Pesticides can also disrupt the salmon endocrine system. Diazinon has been found in northwest waters at levels that reduce production of testosterone by male salmon, a change that may weaken the chances salmon will mate successfully. Finally, minute amounts of many pesticides kill aquatic invertebrates and plants, reducing a critical food source for salmon.

Pesticides may enter streams directly when they are applied, when suspended droplets

and aerosols are carried from the treatment site to the stream. Surface flow can also transport pesticides to waterways, when pesticides adsorb to particulates or when pesticides are dissolved in runoff. Finally, groundwater and subsurface flows can effectively transport pesticides from treated areas to surface waters.

Efficacy of Buffers

Buffers along streams slow the movement of water and allow suspended materials to settle out prior to reaching open water. Vegetated buffers also provide substrates for microbial breakdown of pesticides and increased infiltration capacity. Riparian buffers can alter reduce pesticide contamination by changing local environmental conditions in ways that can facilitate decomposition of pesticides. Buffers also act simply as a location for pesticide decomposition to take place. When buffers slow water movement toward the stream, there is added time for solar, bacterial and physiochemical breakdown of pesticides.

As stated above, pesticides are a very significant contaminant in Northwest waters and pose a real threat to salmon and other aquatic life. Buffers are a well-established means of reducing pesticide transport to streams. We request that you act to protect Seattle's streams by establishing pesticide-free buffers of 200 feet from the ordinary high water mark of all streams in Seattle. Again, we support the proposal's restrictions on pesticide use within wetlands or buffers.

Thank you for considering these comments.

Sincerely,

Erika Schreder
Staff Scientist